CLAIMS

What is claimed is:

1. An optical power calibration method for calibrating a writing power of an optical storage carrier player, the optical storage carrier player comprising an access device for writing data onto an optical storage carrier, the optical storage carrier comprising:

a first power calibration area located close to a center of the storage carrier;

a second power calibration area located close to an outer edge of the storage carrier; and

a data storage area located between the first power calibration area and the second power calibration area;

the optical power calibration method comprising steps of:

providing data to be written;

determining a writing location of the data;

performing an optical power calibration process in the first power calibration area when the writing location being within a predetermined portion of the data storage area; and

performing an optical power calibration process in the second power calibration area when the writing location being out of the predetermined portion.

2. The optical power calibration method of claim 1, wherein the data storage area is divided into an inner area and an outer area, and the predetermined portion is the inner area, when the writing location

is located within the inner area, performing the optical power calibration process in thefirst power calibration area, and when the writing location is located in the outer area, performing the optical power calibration process in the second power calibration area.

3. The optical power calibration method of claim 1 wherein the carrier player controls rotation of the optical storage carrier in a constant linear velocity (CLV) manner.

4. The optical power calibration method of claim 1 wherein the carrier player controls rotation of the optical storage carrier in a constant angular velocity (CAV) manner.

5. The optical power calibration method of claim 1 wherein the data storage area comprises two data segments, and the carrier player controls rotation of the optical storage carrier in a constant linear velocity (CLV) manner when the access device writing data onto one data segment, and each data segment having a different linear velocity.

6. The optical power calibration method of claim 5 wherein the data storage area comprises N data segments, and the optical power calibration method further comprises:

performing the optical power calibration process in the first power calibration area when the writing location is in an inner M (M<N) data segments;

performing the optical power calibration process

in the second power calibration area when the writing location is in an outer N-M data segments.

7. The optical power calibration method of claim 1 wherein the optical storage carrier further comprises a last possible lead-out area located close to the outer edge of the optical storage carrier for storing ending information about data written on the optical storage carrier, and the second power calibration area is located within the last possible lead-out area.

8. An optical storage carrier player for writing data onto an optical storage carrier, the optical storage carrier comprising: a first power calibration area located close to a center of the storage carrier, a second power calibration area located close to the outer edge of the optical storage carrier, and a data storage area located between the first power calibration area and the second power calibration area;

the carrier player comprising:

a control device for determining a writing location for data to be written; and

an access device performing an optical power calibration process in the first power calibration area when the writing location being located within a predetermined portion of the data storage area, and performing an optical power calibration process in the second power calibration area when the writing location being located out of the predetermined portion.

9. The carrier player of claim 8 wherein the data storage

area is divided into an inner area and an outer area, and the predetermined portion being the inner area, when the writing location is located in the inner area, the control device controls the access device to perform the optical power calibration process in the first power calibration area, and when the writing location is located in the outer area, the control device controls the access device to perform the optical power calibration process in the second power calibration area.

10. The carrier player of claim 8 wherein the carrier player controls rotation of the optical storage carrier in a constant linear velocity (CLV) manner.

11. The carrier player of claim 8 wherein the carrier player controls rotation of the optical storage carrier in a constant angular velocity (CAV) manner.

12. The carrier player of claim 8 wherein the data storage area comprises two data segments, and the carrier player controls rotation of the optical storage carrier in a constant linear velocity (CLV) manner when the access device writing data onto one data segment, each data segment having a different linear velocity.

13. The carrier player of claim 12 wherein the data storage area comprises N data segments, and when the writing location is in an inner M (M<N) data segments, the control device controls the access device to perform the optical power calibration process in the first power calibration area, and when the writing location is in an outer N-M data

segments, the control device controls the access device to perform the optical power calibration process in the second power calibration area.

14. The carrier player of claim 8 wherein the optical storage carrier further comprises a last possible lead-out area located close to the outer edge of the optical storage carrier for storing ending information about data on the optical storage carrier, and the second power calibration area is located within the last possible lead-out area.